Columbia/Snake River Mainstem Temperature TMDL

Executive Summary: Draft TMDL

Columbia River Federal Regional Executive Meeting

November 7, 2002

Overview of Columbia/Snake Mainstem Temperature TMDL

- Water Quality Standards
- TMDL Process
- Implementation
- Use Attainability Analysis
- Water Quality Plan

The Water Quality Process Makes Sense:

1. Determine Necessary Water Quality (*water quality standards*).

2. Focus improvement efforts on those waters that don't achieve the necessary water quality (*303(d) list*).

3. Determine the level of improvement needed (*TMDL*).

4a. Identify feasible measures to improve water quality (*implementation plan/water quality plan*).

4b. If no technically or economically feasible measures will improve water quality to the water quality standards, modify the standards to be protective of the uses that can be obtained by technically and economically feasible improvement measures (Use Attainability Assessment/Site Specific Criteria Development)

The Water Quality Process closes the water quality debate.

One way or another it will bring the FCRPS into compliance with CWA requirements.

1. Water Quality Standards

- CWA says:
  - EPA develops criteria guidance
  - states and tribes designate uses and set standards
  - EPA approves standards
- WA and OR temperature standards are based on natural conditions
  - both states allow small incremental temperature increases over natural conditions
  - “Natural” means no impacts from human activities - sets the target

Water Quality Standards
Clean Water Act (CWA) requires:

As enacted in 1972, section 303(d) of the Clean Water Act requires States to:

- Identify waters not meeting State water quality standards – 303(d) list
- Set priorities for TMDL development
- Develop a TMDL for each pollutant for each listed water

EPA to approve or disapprove State submissions, and if disapproved, to act in lieu of State

2. What is a Total Maximum Daily Load (TMDL)?

- The amount of a pollutant that a waterbody can receive and still meet water quality standards.
- The sum of allowable loads from point and nonpoint sources, considering seasonal variation and a margin of safety.
- Determines sources of pollutants causing or contributing to impairment.
- Allocates responsibility for reductions needed to achieve water quality standards.

TMDL Technical Process

- Define the numerical targets for the TMDL.
- Characterize existing conditions.
- Identify sources and evaluate linkages between sources and temperature/dissolved gas response of the river.
- Quantify loading capacity.
- Allocate loads.

TMDL Legal Framework

- EPA and states sued throughout the U.S. for not doing TMDLs
- Consent decrees and settlement agreements require thousands of TMDLs to aid in water quality improvements
- Oregon, Washington and Idaho subject to litigation
- Region 10 states have developed over a thousand TMDLs
- This TMDL is an obligation stemming from the CWA requirements and litigation.

TMDL Process - Estimation of Natural Temperature Regime

- This TMDL modeling exercise is the source of misperception about dam removal
  - Based on state and tribal Water Quality Standards for natural conditions to evaluate thermal regime without “man made” impacts
  - Used to determine how the heat inputs (point sources, tributaries[nonpoint sources] and dams) affect water temperature in the mainstem.

TMDL Process - Allocations

- Allocations - how much of the “pollutant” each source can contribute - are derived from the target temperatures
- Allocations are assigned to dams and point sources.

3. Implementation

- TMDL does not include specific implementation
  - does not identify actions - just targets
- Water Quality Plan is opportunity - how to improve water temperature.
- Many potential measures to carefully consider and potentially implement before there is a conclusion that the standards cannot be achieved.

THIS TMDL is NOT ABOUT DAM BREACHING

- The TMDL is a scientific tool for understanding the impacts of water quality sources.
- The TMDL makes calculations based on the absence of dams to establish the target temperature (applicable water quality criteria) under the state standards.
- Dworshak operations are a good example of what can be done for operations to improve water temperature
- List of potential measures from the Bureau for Grand Coulee - would like to enage on these

Possible Implementation Measures

- Realign water intakes in storage reservoirs
- Alter the flood control rule curves
- Work with Canada to determine if cool water can be released to cool down-stream waters.
- Work with Idaho Power to determine if cool water from the Hells Canyon complex can be used to release cool water in the Snake River.
- Continue to refine decisions at Dworshak dam
- Identify steps that can be taken at individual dams
- Improve water temperature monitoring of the Columbia River system

4. Use Attainability Analysis

- A designated use, which is not an existing use, may be removed if it is demonstrated that attaining the designated use is not feasible.
  - Dams, diversions and hydrolgic impacts
  - Substantial and widespread economic and social impact

- EPA and the states are willing to assist the COE and others in developing a Use Attainability Analysis, if appropriate, as a part of a long term commitment to improve water quality in the Columbia river.

5. Water Quality Plan

- The Water Quality Plan is the strategy for identifying water temperature improvement opportunities
- Two formal commitments to Water Quality Plan
  - 2000 FCRPS Biological Opinion
  - Snake River Lawsuit
- We would like to see leadership from the Corps on the Water Quality Plan - to date EPA has not seen any leadership
- EPA would like to Corps and Bureau to engage in a vigourous dialogue on possible solutions for water temperature improvement

Relationship to Proposed Regional Temperature Criteria Project

- The TMDL is consistent with the Proposed Regional Temperature Criteria Project
- EPA has offered to provide a briefing to the Federal Caucus

Issues from the Oct. 15, 2002, Bureau Letter

- Site Potential
  - EPA: Site Potential is based on existing state law/water quality standards
- Target Temperatures should be based on biological effects
  - EPA: Target temperatures are based on state water quality standards
- Request a phased adaptive approach incorporating economic feasibility
  - EPA: Agree. Water Quality Plan and UAA are processes for a phased adaptive approach which will address economic feasibility.

Issues from the Oct. 15, 2002, Bureau Letter (continued)

- Reasonable Assurances that TMDL allocations can be achieved
  - EPA: Reasonable assurance may be sought through the Water Quality Plan process.
- Unified Regional Water Quality Standards
  - EPA: Proposed Regional Temperature Criteria Project
- International Allocations
  - EPA: EPA does not have authority to develop international water allocations, however, we remain committed to use ongoing international forums to address this issue.

TMDL Schedule

- Draft Final TMDL - mid December
- Public comment period - Dec, Jan, Feb
- Final TMDL - June 2003

Resolution and Next Steps

- Federal Caucus committed to assert leadership on CWA issues.
- Federal Caucus committed to resolve issues through vigorous and engaging discussion at Caucus level - there is time.
  - TMDL/Water Quality Plan/UAA Process are mechanisms for this discussion.